Second Five-Year Review Report

for

Fort Wayne Reduction Dump
Fort Wayne, Indiana

September, 2004

PREPARED BY:

U.S. Environmental Protection Agency
Region 5

Approved by:

Richard C Karl

Richard C. Karl, Director
Superfund Division

Date:

9-29-04

Fort Wayne Reduction Dump
Fort Wayne, Indiana
***Second* Five-Year Review Report**

Table of Contents

List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EPA	United States Environmental Protection Agency
FWR	Fort Wayne Reduction site
GAC	Granulated Activated Carbon
IDEM	Indiana Department of Environmental Management
MCL	Maximum Contaminant Level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PCBs	Polychlorinated Biphenyls
PCOR	Preliminary Close Out Report
PRP	Potentially Responsible Party
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SVOC	Semi-Volatile Organic Compounds
VOC	Volatile Organic Compounds
WM	Waste Management

Executive Summary

The remedy for the Fort Wayne Reduction Dump in Fort Wayne, Indiana included excavation and incineration of drummed wastes, landfill cap construction, flood and wetlands protection, groundwater collection and treatment, and institutional controls. The site achieved construction completion with the signing of the Preliminary Close Out Report (PCOR) on September 27, 1995.

The assessment of this second five-year review found that the remedy was constructed in accordance with the requirements of the Record of Decision (ROD). The remedy is functioning as designed. The immediate threats have been addressed and long-term monitoring is taking place to ensure protection of human health and the environment.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Fort Wayne Reduction Dump		
EPA ID *(from WasteLAN)*: IND980679542		
Region: 5	**State:** IN	**City/County:** Fort Wayne/Allen County
SITE STATUS		
NPL status: ☒ Final ☐ Deleted ☐ Other (specify)		
Remediation status (choose all that apply): ☐ Under Construction ☒ Operating ☐ Complete		
Multiple OUs?* ☐ YES ☒ NO	**Construction completion date:** 09 / 27 / 95	
Has site been put into reuse? ☐ YES ☒ NO		
REVIEW STATUS		
Lead agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency		
Author name: Linda A. Kern		
Author title: Remedial Project Manager	**Author affiliation:** U.S. EPA, Region 5	
Review period:** 04/29/04 to Signature Date of this 5 year review		
Date(s) of site inspection: 09/09/04		
Type of review: ☒ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead ☐ Regional Discretion)		
Review number: ☐ (first) ☒ 2 (second) ☐ 3 (third) ☐ Other (specify)		
Triggering action: ☐ Actual RA On-site Construction at OU #___ ☐ Actual RA Start at OU# ___ ☐ Construction Completion **X** Previous Five-Year Review Report ☐ Other (specify)		
Triggering action date *(from WasteLAN)*: 07/02/99		
Due date *(five years after triggering action date)*: 07/02/04		

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

1) During the recent site inspection, it was observed that several areas in the perimeter fence are compromised, thus the potential for trespassing exists at the site. General refuse was also observed on site. In addition, two well casings were not able to be closed. These areas were documented and will be addressed by Waste Management (WM).

2) Based on a review of existing monitoring data, WM has indicated an interest in pursuing a modification to the existing remedy at the site. WM is interested in evaluating whether extracted groundwater can be directly discharged to the City of Fort Wayne Wastewater Treatment Plant, eliminating on-site treatment of groundwater via the GAC system. WM will submit a proposal which will be reviewed for a determination on the requirements to carry out this proposal.

Recommendations and Follow-up Actions:

1) The compromised areas in the fence, the general refuse on site, and disturbed well casings will be addressed by WM.

2) The potential for terminating groundwater treatment at the site will be evaluated by EPA/IDEM.

Protectiveness Statement:

The remedy implemented at the Fort Wayne Reduction Site currently protects human health and the environment. Drums containing hazardous materials have been excavated and contents have been disposed of appropriately. The groundwater collection system protects the Maumee River from the migration of contaminated groundwater into the river at unprotective levels. Soil covers at the site prevent erosion that could result in a direct contact threat, or washout of the wastes into the Maumee River.

Long-Term Protectiveness:

Long-term monitoring will continue to ensure that the remedy remains protective of human health and the environment.

Other Comments:

None

Five Year Review Report
Fort Wayne Reduction
Fort Wayne, Indiana

I. Introduction

The purpose of the five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

The Agency is preparing this Five-Year Review report pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *"If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the result of all such reviews, and any actions taken as a result of such reviews."*

The Agency interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *"If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action."*

The United States Environmental Protection Agency (EPA), Region 5, conducted this five-year review of the remedy implemented at the Fort Wayne Reduction Dump Site in Fort Wayne, Indiana. This review was conducted by the Remedial Project Manager (RPM) for the entire site from April 2004 through September 2004. This report documents the results of the review.

This is the second five-year review for the Fort Wayne Reduction Dump site. This statutory five-year review is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

Table 1 lists the chronology of events for the Fort Wayne Reduction Dump site.

October, 1984	Proposed for the National Priorities List (NPL)
February, 1986	EPA released findings on groundwater quality samples from River Haven community residential wells.
June, 1986	Finalized on the NPL
August, 1986	Remedial Investigation (RI) initiated by EPA
May, 1987	RI field activities completed
January 7, 1988	RI Report completed
May 2, 1988	Feasibility Study (FS) completed
June 7, 1988	Public comment on Proposed Plan ended
August 26, 1988	Record of Decision issued
February 22, 1989	Consent Decree for Remedial Design/Remedial Action (RD/RA) lodged
December, 1989	Remedial Design submitted
September, 1990	Remedial Action initiated
Fall, 1990	Remedial Design of western portion initiated
July, 1991 - October 1991	Eastern Portion cap constructed
September, 1992 - December 1992	Western Portion Phase I & II (geotextile wall, collection trench, vibrated beam vertical barrier) constructed
February, 1993 - August, 1994	Western Portion Phase III (drum removal) conducted
July, 1994 - October 1994	Western Portion cap constructed
November, 1993 - October, 1994	Western Portion groundwater treatment system constructed
September 25, 1995	Prefinal inspection performed by EPA and IDEM
September 27, 1995	Preliminary Close Out Report signed
July 2, 1999	First 5 Year Review completed
Ongoing	Groundwater collection and treatment & groundwater monitoring

III. Background

Physical Characteristics

The FWR site is located along the south bank of the Maumee River approximately 1.1 miles east of the U.S. Highway 30 and Maumee River intersection, just east of Fort Wayne, Indiana. The 35 acre site is situated within the 100-year flood plain of the river. The site is bordered by the Maumee River to the north, the Norfolk and Western Railroad to the south, Dager Auto Parts to the southwest, Martin Landfill to the northwest, and Herber Drain to the east. The communities of River Haven and Sunnymede Woods are directly east and south approximately 0.5 miles from the site. The Site's location is shown in Figure 1. A three dimensional terrain depiction of the Site is shown in Figure 2.

Land and Resource Use

Prior to 1967, the site was uncultivated farmland that may have been used for some limited waste disposal. The site is believed to have started official operations in 1966 and continued to accept residential and industrial wastes until 1974. Currently, primary land use in the area of the site is light industrial and commercial. An abandoned landfill and the Fort Wayne municipal wastewater treatment plant and sludge drying beds are located along the Maumee River in the vicinity of the site. These areas are depicted in Figure 3.

History of Contamination

The site was operated as a recycling center and incinerator from 1967 to 1970 and the residual ashes were disposed of on-site. In 1970, Fort Wayne Reduction, Inc. changed its name to the National Recycling Corporation and expanded the recycling plant at the site. Few records were kept on the volume and composition of wastes, or on the generators of the waste. The eastern portion of the site (approximately 15 acres) was actively used as an industrial and general refuse landfill. Portions north and west of the recycling plant were utilized for disposal of industrial wastes, building debris, and barrels of liquid and sludge wastes. Inspection reports indicate that the refuse deposited included wood, paper, liquids, sewage, garbage, industrial wastes, municipal wastes, industrial liquids, and sludges (paints, varnishes, etc.). The western portion (approximately 5 acres) was used as a disposal area for industrial wastes, wire waste, and residual ash from the incinerator operations. A 40- to 60-foot diameter waste disposal cell containing liquids was first reported in a state inspection report from May, 1972. A drum burial cell was located on aerial photographs taken in 1973.

The site ceased accepting wastes in 1974. From 1974 until late 1977, the site continued to be used as the base for a waste hauling operation and a recycling center. The recycling center shut down in late 1974, and the hauling operation later moved to a different location. After that time, the site was inactive. In 1984, Waste Management (WM) acquired SCA Services, Inc., which was the former owner of the site.

In February 1986, EPA released its findings on groundwater quality samples taken from residential wells in the River Haven Community. There was no evidence of contamination in the well samples, nor was there evidence of contamination derived from the Fort Wayne Reduction Site. EPA and SCA performed separate and limited field investigations at the site.

The site was proposed for addition to the National Priorities List (NPL) in October of 1984, and was finalized on the NPL in June of 1986.

Initial Response

A Remedial Investigation/Feasibility Study (RI/FS) including a baseline Risk Assessment, was initiated in August, 1986. The RI (dated January 7, 1988) concluded that remedial response actions were warranted for site media impacted by past disposal activities. These media included surface water, soils, and groundwater. The FS identified applicable remedial technologies and screened them based on technical, environmental, public health, institutional criteria, and cost. The FS recommended a remedial action alternative for the site, and EPA signed the Record of Decision (ROD) on August 26, 1988. The ROD defined three operable units for the site. Operable unit 1 is the eastern portion municipal landfill, operable unit 2 is the western portion of the site, and operable unit 3 is groundwater. For purposes of remedial action and reporting, the operable units were combined, therefore all tracking in EPA's WasteLAN database is reported as one overall operable unit. For clarity in discussing the remedial actions taken at the site, the following is organized by the originally envisioned three operable units.

Basis for Taking Action

Eastern Portion

The soils in the eastern portion of the site contained municipal wastes buried up to 25 feet deep. Wastes were covered with a mixture of clay, silts, and gravels averaging approximately 2 feet in thickness. The soils on this portion of the site were not a source of hazardous organic contaminants. Some inorganic compounds, specifically arsenic, antimony, copper, and lead, were detected in the surface soils at levels up to 195 mg/kg.

The ground water beneath the site was delineated into three unconsolidated aquifers (deep, intermediate, and upper) with intervening low permeability layers. Under the far eastern portion of the site, the intermediate aquifer has direct hydraulic connection with the upper aquifer unit. The general flow direction of ground water under the eastern portion of the site is northeast toward the Maumee River.

The groundwater on the eastern portion, as well as the western portion, of the Site is not considered a potential water supply source. Limited groundwater yield excludes this aquifer's use as a water supply source on-site. A municipal water supply is available or could be readily obtained from the City of Fort Wayne (the City of Fort Wayne obtains their water supply from the St. Joseph River). The individual private wells in the area are upgradient from the site and the Maumee River is not used as a water supply in the Site's area. Therefore, groundwater discharging to the Maumee River can not be associated with a drinking water exposure pathway.

Western Portion

Soils in the western portion of the site were found to be contaminated with volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PCBs, and inorganics. Sample results for total VOCs were as high as 15,566,000 ug/kg on this portion of the site. Two areas of buried drums, referred to as Area A and Area B, were discovered on the western portion of the site.

The ground water underneath the site was delineated in three separate aquifers (deep, intermediate, and upper). The upper aquifer consists of alluvial and lacustrine deposits and is underlain by a till unit. The general flow direction of ground water under this portion of the site is north and northeast towards the Maumee River. The RI showed that groundwater contamination under the western portion of the site was limited to the upper aquifer. Total organic contaminant concentrations as high as 1,700 ug/L were found in the groundwater beneath this portion of the site.

Contaminants of Concern

Ninety-one chemicals were detected in samples collected during the RI. Since it was not feasible to include all of them in the risk assessment for the site, potential chemicals of concern were selected to represent the hazards the site may pose to human health and the environment. The following are the potential chemicals of concern listed in the ROD:

Acetone
Antimony
Arsenic
Barium
Benzene
Beryllium
Bis(2-ethylhexyl)phthalate
Cadmium
Chlorobenzene
Chloroform
Chromium
Copper
Cyanide
Dibutyl phthalate
1,1-Dichloroethane
1,1-Dichloroethene
2,4-Dimethyl phenol
Methylene Chloride
Ethylbenzene
Lead
Manganese
Mercury
2-Methylphenol
4-Methylphenol
4-Methyl-2-Pentanone
Nickel
PAHs*
PCBs
Phenol
Silver
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
Trichloroethene
Vanadium
Vinyl Chloride
Xylenes
Zinc

*Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene

IV. Remedial Actions

Remedy Selection

In evaluating the findings of the RI and the Risk Assessment, the following media on the western portion of the site were identified as presenting either an existing or a potential future unacceptable public health or environmental risk at the site:

- Surface soils
- Subsurface soils/wastes
- Groundwater/groundwater seeps

Therefore, the following were identified as the specific remedial action goals for the site:

- Surface Soil - To provide adequate protection of public health and the environment by limiting direct contact with, and erosion of, on-site surface soils in the western portion of the site.

- Subsurface soils/wastes - To provide adequate protection of public health and the environment by limiting direct contact with, and future releases to the Maumee River from the subsurface soils and wastes in the western portion of the site.

- Groundwater/Groundwater Seeps - To provide adequate protection of public health and the environment by limiting discharge of, and direct contact with, groundwater/groundwater seeps in the western portion of the site.

- Municipal landfill - Since no unacceptable public health or environmental risk was associated with this area, the remedial action goals were to ensure future migration of groundwater would not present a threat to the river and adequate cover is present to prevent erosion resulting in a direct contact threat or washout of the wastes to the river.

Consistent with the remedial action goals, three operable units were developed for the site: OU1 - the soil on the western portion of the site; OU2 - the municipal landfill; and OU3 - groundwater. The following remedial action alternatives were implemented for the operable units:

EASTERN PORTION OPERABLE UNIT (OU1)

The remedial action alternative designed for Operable Unit 1 - Eastern Portion Municipal Landfill consisted of:

1) Soil cover designed for flood protection;
2) Installation of new ground water monitoring wells;
3) Long-term ground water monitoring; and
4) Access restrictions (fencing, warning signs, and deed restrictions).

The risk assessment for this area did not indicate that the contaminants present posed a threat by either direct contact with the surface soils or by migration of ground water to the Maumee River. Construction of the soil cover and installation of the monitoring wells were completed in 1994. The soil cover consists of three soil layers. The lower layer is a 30 inch thick area of clay compacted to a permeability of $1x10^{-7}$ cm/sec. The middle layer is a general fill soil area to provide frost protection for the clay and to allow for grading to promote runoff of precipitation. The surface layer of topsoil, promotes growth of vegetation. Topsoil on steep slopes were covered with erosion control matting to prevent excessive erosion prior to the vegetation taking root. Rip rap was placed from the river channel to the 100 year flood level.

WESTERN PORTION and GROUND WATER OPERABLE UNITS (OU2 & OU3)

The remedial action alternative designed for Operable Units 2 and 3 - Western Portion Soil and Groundwater consisted of:

1) Excavation of approximately 4,600 drums[1];
2) Incineration of drummed wastes;
3) Reconsolidation of soils/wastes on-site;
4) Soil cover;
5) Groundwater collection and treatment;
6) Flood protection and wetlands protection; and
7) Access restrictions (fencing, warning signs, and deed restrictions);

These operable units were combined in the remedy description portion of the ROD, because the groundwater on the western portion required treatment and groundwater on the eastern portion did not. The western portion of the site is where industrial, wire, liquid, and incinerator wastes were deposited. A large pit where liquid wastes were dumped was also located in this area, as were areas of buried drums.

Based on the ROD, the Remedial Design (RD) was prepared for construction of the remedy. A Consent Decree (CD) was lodged on February 22, 1989 which called for implementation of the Remedial Design/Remedial Action (RD/RA). The RD was completed in December, 1989. Construction of the RA began in July, 1991 and was completed in October, 1994.

Remedy Implementation

Eastern Portion - Landfill Cover

The Remedial Action (RA) for the Eastern Portion of the site consisted of installing a Subtitle D landfill soil cover. Construction of the cap was performed from July, 1991 through October, 1991. Approximately 130,000 cubic yards of soil was transported to the site and placed between July 7th and October 15th 1991. The soil cover consisted of a 30-inch thick clay cover compacted in 6-inch lifts. On top of the clay layer, a layer of general fill approximately 18 inches thick was placed to allow for grading and provide frost protection for the clay. Topsoil

---

[1]This number of drums was an estimate made during the RI/FS. Once excavation began, more drums were discovered. This is discussed in the following section.

was used to cover disturbed areas and a vegetative cover was sown over all disturbed areas to prevent erosion. Rip rap was placed along the Maumee River bank to the 100-year flood level.

New groundwater monitoring wells were installed around the eastern portion and groundwater samples were collected quarterly in 1991 and 1992 in order to establish a baseline and then semi-annually in 1993 and 1994. Based on the results of these samples, no additional groundwater sampling was necessary for the Eastern Portion of the site.

Western Portion - Phase I and Phase II

The Phase I and Phase II construction activities consisted installation of a geotextile wall, a bio-polymer collection trench, and a vibrated beam vertical barrier. These activities were performed from September, 1992 through December, 1992. Phase I activities included construction of diversion berms, fence installation (on both the Eastern and Western Portions), and general site preparation. Phase II activities included the construction of approximately 255 linear feet of geotextile retaining wall and installation of a 1,200 feet long by 35 feet wide working platform along the south bank of the Maumee River to limit erosion. A bio-polymer collection trench, 1,210 feet in length, was installed to collect impacted groundwater for treatment on site. The trench reaches down to the top of the New Holland Till, varying in depth from 14 to 34 feet below ground surface. Three extraction wells were installed. Approximately 1,210 linear feet of vibrated beam vertical barrier was constructed between the collection trench and the Maumee River to minimize recharge into the trench from the river. The vertical barrier is keyed at least 18 inches into the New Holland Till and is approximately 4 ½ inches wide.

Western Portion - Phase III Drum Removal

Phase II construction activities consisted of excavation of drums with appropriate disposal of contents. Two areas were identified which contained drums within the Western Portion of the landfill: Area A (located on the east side) and Area B (located on the west side).

Approximately 8,700 intact drums and approximately 1,900 drums that were "non-intact" or empty were excavated from Area A. Area A encompassed approximately 41,000 square feet and remedial activities were performed from April through October, 1993. Approximately 13,800 intact drums and approximately 3,800 "non-intact" or empty drums were excavated from Area B. Area B encompassed approximately 99,500 square feet and remedial activities were performed from February, 1993 through April, 1993 and from October, 1993 through August, 1994.

The drums, upon excavation, were documented, sampled, and stored on-site. When sample results were received, the drums were emptied into roll-off boxes (if solid material) or storage tanks (if liquid) on-site. Drum contents were consolidated with similar waste from other drums. The consolidated material was sampled for disposal criteria, manifested, and shipped to an appropriate disposal facility. After a drum was "RCRA empty", its carcass was crushed and buried in areas that had already been excavated free of drums. As it can be seen, the number of drums excavated was much higher than originally estimated in the RI/FS. No drums were found outside the general boundaries of Areas A and B.

Western Portion - Soil Cover

A hybrid RCRA landfill soil cover was installed on the Western Portion of the site. Construction of the cover consisted of rough grading of the site to obtain the appropriate slope. A drainage blanket was constructed which consisted of 12 inches of crushed limestone covered on top and bottom with a geotextile. This drainage blanket was tied in directly to the collection trench and was installed along the river to intercept any potential seeps. The entire Western Area was then covered by a cohesive soil layer consisting of silty clay to a depth of 30 inches on gentle slopes and 36 inches on steeper slopes. Rip rap was then placed in ditches and along the bank of the Maumee River. Four to six inches of topsoil was then placed over the entire site and the area was seeded. The cover was constructed from July, 1994 through October, 1994.

Western Portion - Groundwater Management System

The Groundwater Management System was installed at the site to collect and treat impacted groundwater from the collection trench and to prevent groundwater from discharging to the Maumee River. Groundwater is collected from the collection trench via the three extraction wells and is pumped to a 20,000 gallon capacity holding tank located adjacent to the treatment building, located at the southwest corner of the site. The original design called for water to be treated via air stripping and granular activated carbon (GAC). This treatment train was later modified and is discussed in the following section. The treated water is stored in a holding tank, with subsequent discharge via a sanitary sewer line to the City of Fort Wayne Wastewater Treatment Plant for final treatment. The on-site treatment system is computer controlled, and an auto-dialer immediately notifies contractor personnel should a problem develop. Construction of the system began in November, 1993 and continued through August, 1994. The Quality Assurance and Quality Control (QA/QC) program, which was outlined in the RD/RA Work Plan and the Quality Assurance Project Plan (QAPP), was used throughout the project. The QA/QC program is detailed in the site files.

System Operations/Operation and Maintenance

On September 25, 1995, EPA and the Indiana Department of Environmental Management (IDEM) conducted the pre-final inspection at the site. EPA determined that the remedy was constructed according to the RD/RA specifications. A Preliminary Close Out Report was signed on September 27, 1995.

Operation and Maintenance (O&M) activities have been conducted at the site since completion of construction. O&M activities include upkeep of the landfill cap to check for erosion, confirming that there is adequate vegetative growth, verification of the integrity of the fence and the rip rap along the Maumee River. Discharge samples are collected and analyzed, as required by the discharge permit to verify that the treatment system is operating properly and that the discharge is within permit limits. In addition, semi-annual groundwater monitoring is performed.

As part of routine O&M activities, the carbon contactors were backflushed and rotated with respect to lead/lag positions on April 4, 2001, October 25, 2002, and November 29, 2003. The carbon was last changed out (new skid mounted contactors with fresh carbon) on May 5, 2001. The carbon contactors are maintained principally on the basis of pressure readings (i.e., to

prevent plugging of the carbon beds). Change out of the carbon has not been required as the treated effluent has consistently been in compliance with the discharge permit limits.

V. Progress Since the Last Five-Year Review

The first Five Year Review was completed for the site on July 2, 1999. Based on the comprehensive review of monitoring data at that time, it was determined that the implemented remedial actions at the site provided adequate protection of human health and the environment. Since the first review, additional groundwater data has been collected on a semi-annual basis. This data consists of groundwater compliance data which has also been submitted to the Fort Wayne City Utilities as a condition of the Industrial Wastewater Discharge Permit.

In 2001, based on a review of monitoring data, it was determined that running the collected groundwater through the air stripper was no longer needed. Therefore, the groundwater treatment system at the site was modified. Current treatment of the groundwater consists of treating the plant influent with granulated activated carbon only. Based on a review of monitoring data, it can be seen that this modification does not effect the effluent characteristics or effluent volume. It can be seen that the activated carbon provides sufficient treatment to meet the facility's discharge permit. The system has continued to be monitored to ensure that permit compliance is met.

VI. Five-Year Review Process

Administrative Components

The Fort Wayne Reduction five year review was prepared by Linda Kern, Remedial Project Manager for the site. Resa Ramsey, Remedial Project Manager with IDEM also assisted in the review. The five year review consisted of a review of relevant site documents and monitoring data, discussions with the Responsible Party representative, and a site inspection.

Community Involvement

A public announcement ran in the local Fort Wayne, Indiana newspapers on May 29 and 30, 2004 announcing that the EPA was performing this review. The public was invited to comment either in writing or verbally to EPA on the current condition of the FWR. No comments or questions were received from the community. No interviews were conducted with the community.

Document Review

Documents reviewed for this five year review included the RI, ROD, RD, QAPP, RA Report, analytical results of compliance monitoring events, discharge monitoring reports, as well as relevant site correspondence. A complete list of documents reviewed can be found in Appendix A.

During this five year review process, EPA reviewed all investigation reports and decision documents for the Fort Wayne Reduction site. RI and RD documents were utilized to evaluate the pre-construction conditions of the Site. The ROD was reviewed to ensure that all requirements have been met and implemented during remediation activities. The RA Report was reviewed for actions implemented at the Site. O&M analytical results were reviewed to evaluate site conditions over the past five years.

Data Review

Historical data for the site was reviewed, in addition to post-construction data collected during the O&M phase of the project. Groundwater monitoring and discharge reports submitted by Waste Management were reviewed.

The average plant flow of treated groundwater is approximately 21,600 gallons/day. A review of the discharge data indicated that the concentrations of the analyzed constituents were below the permitted values for the groundwater treatment system.

Based on a review of the monitoring data, it can be seen that the trench is effectively capturing impacted groundwater for treatment. The downgradient wells that are used to monitor groundwater quality at the site are FW-1S, FW-2S, and FW-2I. The shallow aquifer monitoring wells (FW-1S and FW-2S) are sampled to verify that migration of constituents of concern toward the river is being prevented. The intermediate aquifer monitoring well (FW-2I) is sampled to verify that there is no downward, vertical migration of the constituents from the shallow aquifer. The results of the groundwater monitoring performed since the last five year review are presented in Appendix C (Tables A through F).

A "Declaration of Environmental Restrictive Covenants" was filed on May 29, 2002 in the Allen County Auditor's Office. This notice defines the site property and imposes limitations on site access and future uses of the property for the protection of human health and the environment. Restrictions on use include the following:

- Groundwater Use: Groundwater on or under the Property shall not be used for any purpose except as approved by governmental authority;
- Surface Water Use: Surface water on or under the Property shall not be used for any purpose except as approved by governmental authority;
- Drinking Water Wells: No drinking water wells shall be installed or allowed to be installed on the Property; and
- Compliance with Environmental Laws: The Property shall not be used in any way that is inconsistent with any response actions, laws or regulations applicable to the Property from time to time.

A copy of the Declaration can be found in Appendix D.

Site Inspection

A visual inspection of the site took place on September 9, 2004. Participants at the site inspection were Remedial Project Manager for EPA, Linda Kern, Resa Ramsey, Project Manager for IDEM, and Kent Bainbridge, Senior Project Manager for Waste Management. Photographs taken during the site inspection can be found in Appendix B.

The groundwater treatment building and system were inspected and appeared to be in good operating condition. A walk through of the site was made and observations regarding vegetation, general site and fence conditions were recorded.

The soil covers on both the Eastern and Western Portions of the landfill were well vegetated and in good condition. The site is fenced and signs are posted on the entry gate. Older wooden signs posted along the perimeter fencing are no longer legible and should be replaced. No Trespassing signs are posted along the Maumee River and are still legible. Evidence of site trespassing was noted, as it could be seen that the fence had been cut in several locations (west, south, southeast and eastern portions of the site).

The fence is damaged by a fallen tree in the southeast corner of the landfill. Locations were photographed and noted for future repair. Another sign of trespassing included disposal of wooden carts, wheel hubs, large electrical wooden spools, and other wooden objects on site. Limited amounts of trash (i.e, plastic bottles, aluminum cans, etc.) that are assumed to be washed up from the river were also observed.

A visual inspection of the extraction wells indicated that they appear to be in good condition. Two monitoring wells have experienced freeze/thaw heaving, therefore the protective well casings are opened and are not able to be closed/locked.

There are several areas on site where deer tracks were observed.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes. The goal of the ROD was to:

- Prevent washout of the landfill wastes by the Maumee River;
- Restrict access to the site to prevent direct contact with wastes;
- Prevent migration of contaminated groundwater into the Maumee River at unprotective levels; and
- Limit the present and future use of the site and limit the use of groundwater at the site via institutional controls.

The remedial actions implemented at OU1 consisted of:

- A subtitle D soil cover;
- Groundwater monitoring;
- Access Restrictions (fencing, warning signs, and deed restrictions).

The remedial actions implemented at OU2 consisted of:

- Excavation of 22,579 drums;
- Incineration of drummed wastes;
- Reconsolidation of soils/wastes on-site;
- A hybrid RCRA landfill soil cover;
- Flood protection and wetlands protection;
- Groundwater collection and treatment; and
- Access Restrictions (fencing, warning signs, and deed restrictions).

The review of site documents, groundwater compliance data, discharge monitoring reports and the site inspection indicate that the remedy is functioning as intended by the ROD and CD.

***Question B*: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?**

Yes. The exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy selection are still valid and have been addressed by the cleanup. In the remedy selection process, the major exposure pathways identified at the Site were divided into two major categories:

- Exposures associated with the migration of contaminants to the Maumee River; and
- Exposure associated with the use of the Site.

Migration of contaminants to the Maumee River was considered possible through the following mechanisms: the leaching of contaminants from the buried wastes into shallow groundwater and the subsequent discharge of the groundwater to the Maumee River; surface water run off during precipitation events carrying contaminants exposed at the Site surface to the river; and the potential for flood events washing out contaminants from the Site and carrying them to the river. The continual release of contaminants through groundwater discharge to the river presented the most significant source of risk. Figure 4 presents a flowchart of the potential exposure pathways that were of greatest concern at the Site.

The release of contaminants to the Maumee River can result in the direct exposure of aquatic organisms to the contaminants. The contaminants may also partition to the sediments where benthic (bottom dwelling) organisms and bottom feeding fish can come into contact with the contaminants. People or wildlife who consume aquatic organisms may be exposed to the contaminants (i.e., food chain effects). Exposure may also occur to people who come into contact with river water through recreational activities such as swimming.

People could also be exposed to contaminants through activities that bring them into direct contact with the contaminants on-site. These activities included: trespassing on the site; construction activities undertaken as part of future site development; and exposure of future site occupants to contaminants left exposed from site development. Residential or commercial use of the site was considered possible, however, residential development was less likely given the current commercial and industrial land usage of the surrounding property.

Exposure point concentrations can be estimated by direct measurement at a point of contact or by modeling contaminant release and transport to the exposure point. The exposure assessment for the Fort Wayne Reduction Site used both of these approaches.

For exposures occurring to contaminated media on-site (i.e., surface soils, subsurface materials and groundwater seeps and the associated sediments), the highest contaminant concentrations detected (in the appropriate media) were used to represent the high exposure point concentrations. Median exposure point concentrations were estimated wherever possible. In several instances, however, the low frequency of detection of a chemical did not allow estimation of a median exposure point concentration.

A somewhat different approach was taken for exposures at the Maumee River. First, contaminant loadings from the site were calculated from the detected groundwater and groundwater seep contaminant concentrations on-site. Maumee River contaminant concentrations were then projected from the site's contaminant loadings. This approach allowed the relationship between groundwater discharge from the site and the effect of that discharge on the river to be evaluated. This type of approach is consistent with State of Indiana regulations regarding Water Quality Standards and is typically used under the National Pollutant Discharge Elimination System (NPDES) to establish discharge limits.

The risk assessment evaluated the various exposure pathways and identified, by media, the potential risks to human health and the environment associated with the Site's contaminants. The eastern (municipal landfill) portion of the Site was determined not to pose a risk to human health or the environment. Contaminant levels in the surface soils of this area were below levels indicating a direct contact threat. The site history and the site's waste disposal practices indicated that the vast majority of waste disposed in this portion of the site was municipal refuse, though minimal amounts of hazardous materials may have been disposed of within the landfill. This information, plus the groundwater monitoring data, indicate that no current threat to the Maumee River exists from the groundwater discharging to the river. Before implementation of the remedy, direct contact by trespassers to exposed contaminants in the surficial soils on the western portion of the Site, especially the wire disposal area, was a concern. Inadvertent ingestion of groundwater seeps along the banks of the river was also a concern because of the heavy metals, phenolic compounds, and xylene present in the seeps.

The potential for aquatic effects as a result of the contaminated groundwater discharging to the Maumee River existed. Projected contaminant levels in the river (after the mixing of groundwater with river water) did not exceed the chronic State water quality standards for the protection of aquatic organisms. The concentrations of contaminants in the groundwater and groundwater seeps did however, exceeded acute State water quality stands for the protection of aquatic organisms at the point of discharge into the river for several metals, phenolic compounds, and VOCs. The projected river contaminant concentrations after mixing were lower than levels associated with adverse health effects from swimming or fish consumption.

The remedial action selected in the ROD met all ARARs and State environmental laws. The closure requirements of RCRA were not "applicable" because the wastes at the site were landfilled before RCRA requirements took effect and implementation of the selected remedy did not constitute new land disposal of the wastes.

Under the selected remedy, wastes that were present on the western portion of the site were excavated to allow for the removal of drums. The soil and wastes were then reconsolidated in the ground within the area of contamination. The reconsolidation of soil and waste did not constitute disposal of the material, therefore RCRA Subtitle C closure requirements were not applicable, but they were relevant. After considering RCRA Subtitle C closure in place for the western portion of the site, it was determined that it would not be appropriate based on the characteristics of the site. Under the circumstances present, it was more appropriate to pursue a "hybrid" closure approach. Since RCRA Subtitle C closure was determined not to be an ARAR for the western portion of the site, the selected "hybrid" closure combined certain appropriate aspects of RCRA "clean closure" with appropriate aspect of RCRA "closure in place" and a pump and treat system for contaminated groundwater.

As indicated above, the eastern portion of the site primarily contained municipal refuse. Closure under RCRA Subtitle D, as described in Indiana requirements, was not applicable due to the dates the landfill was operated, but it was relevant and appropriate and thus determined to be the action specific ARAR for closure of this portion of the site.

***Question C*: Has any other information come to light that could call into question the protectiveness of the remedy?**

No. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. No new exposure pathways or receptors have been identified. No additional information has come to light which would call into question the protectiveness of the remedy.

Technical Assessment Summary

This review found the remedy implemented at the Site to be functioning as intended by the ROD. According to the data reviewed and the site inspection, the remedy is functioning as intended. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy.

VIII. Issues

As indicated above, several areas in the perimeter fence were compromised, thus the potential for trespassing exists at the site. General refuse was also observed on site. These areas were documented and will be addressed by WM.

Based on a review of existing monitoring data, Waste Management has indicated an interest in pursuing a modification to the existing remedy at the site. WM is interested in evaluating whether extracted groundwater can be directly discharged to the City of Fort Wayne

Wastewater Treatment Plant, eliminating on-site treatment of groundwater via the GAC system. WM is currently summarizing the treatment facility's influent and effluent data and performing a trend analysis. Upon completion, WM will submit a proposal to EPA and IDEM. This information will be used to evaluate the constituent threshold that must be attained to modify the treatment system.

IX. Recommendations and Follow-Up Actions

Table 2

Five Year Review Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)
Several areas in site fence are compromised and well casings are opened	Repair fence and well casings	PRP	EPA	October, 2004	Current: Yes Future: Yes
Possible Termination of on-site treatment of groundwater	Submittal of proposal for evaluation	PRP	EPA/IDEM	January, 2005	Current: No Future: No

X. Protectiveness Statement

The remedy implemented at the Fort Wayne Reduction Site currently protects human health and the environment. Drums containing hazardous materials have been excavated and contents have been disposed of appropriately. The groundwater collection system protects the Maumee River from the migration of contaminated groundwater into the river at unprotective levels. Soil covers at the site prevent erosion that could result in a direct contact threat, or washout of the wastes into the Maumee River. Long-term monitoring continues to ensure that the remedy remains protective of human health and the environment.

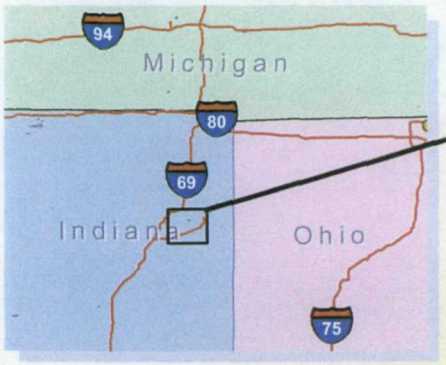
XI. Next Review

The expectation exists that hazardous substances, pollutants, or contaminants will remain at the Fort Wayne Reduction Site which will not allow for unlimited use or unrestricted exposure. This will require the U.S. EPA to conduct another Five Year Review by September, 2009, five years from the date of this review.

Figures

Fort Wayne Reduction Site

1) State



2) Allen County

3) Fort Wayne Reduction Site

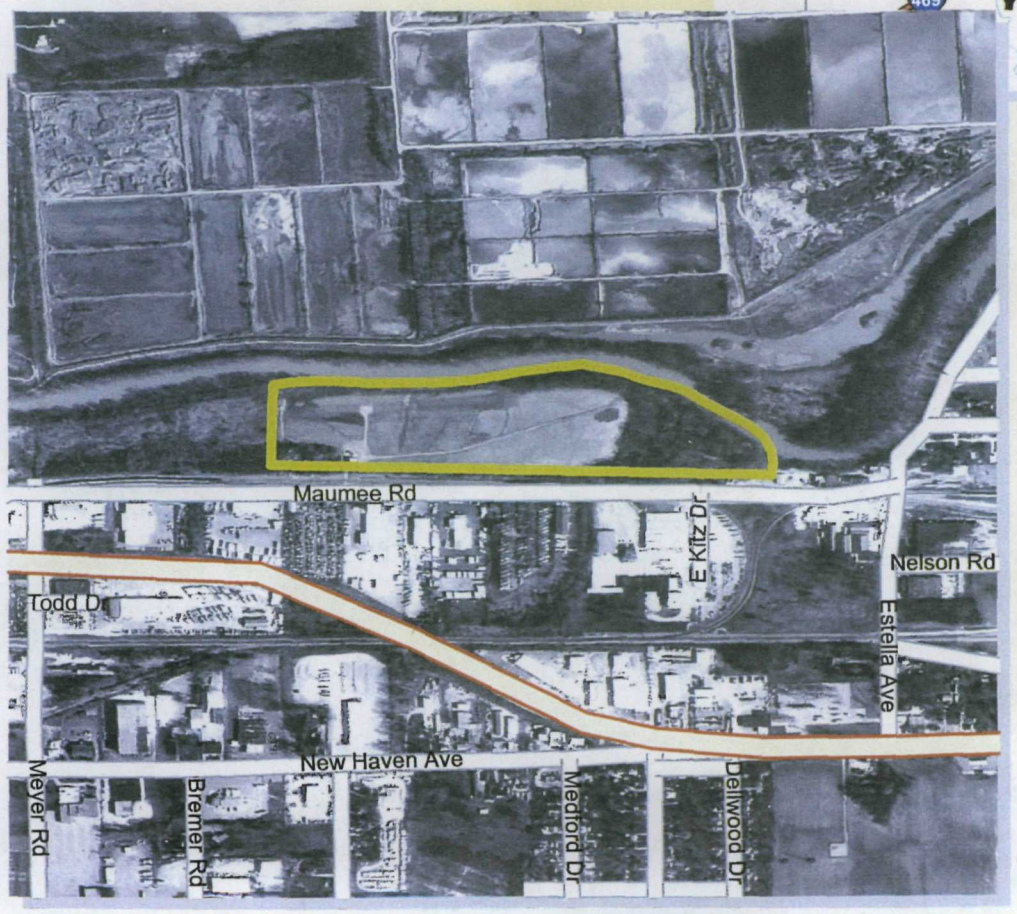
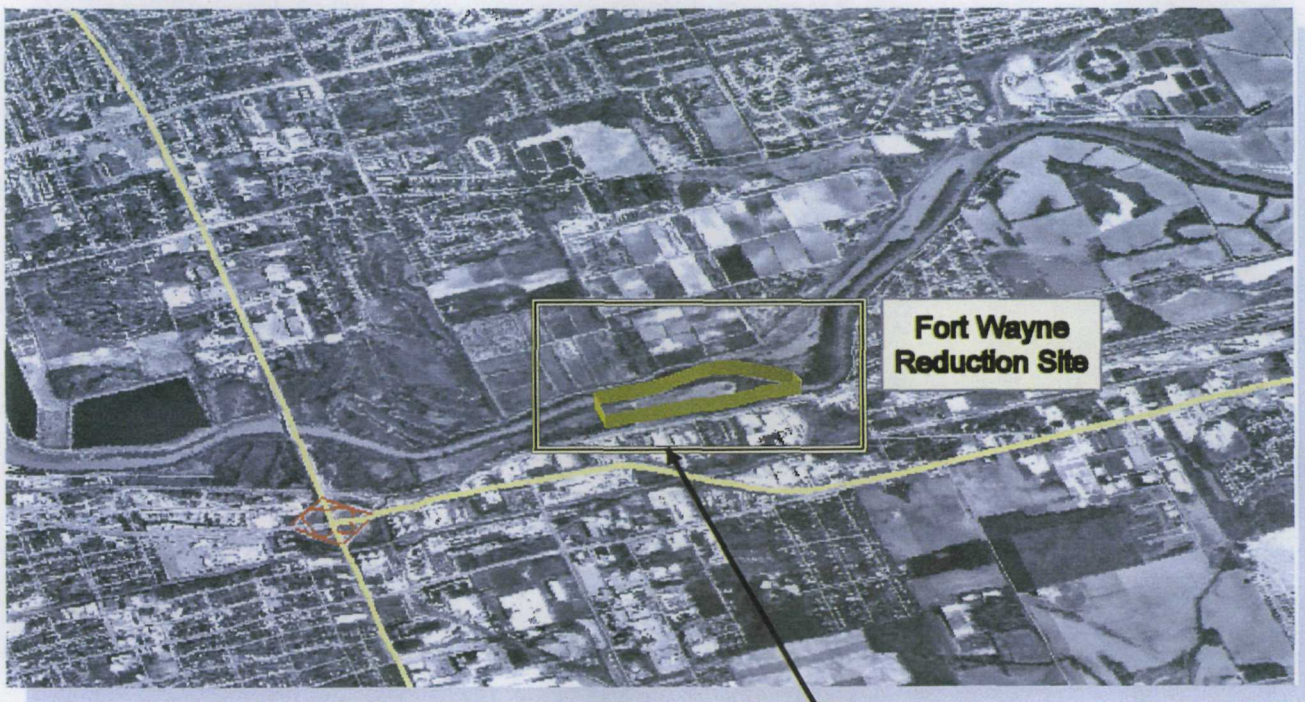


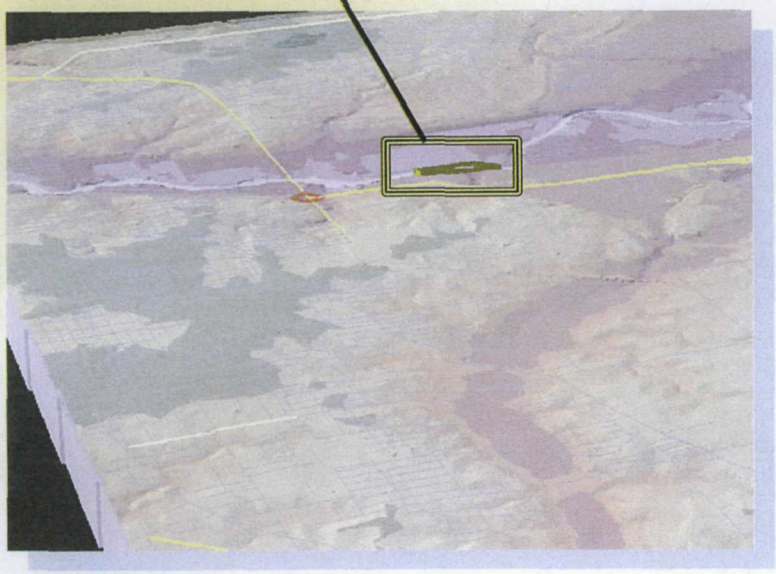
Figure 1

Plot created by Andrea Porter U.S. EPA Region 9/2/2004

GEOS
Groundwater Evaluation and Optimization System

Fort Wayne Reduction Superfund Site
3D Surface Terrain Model





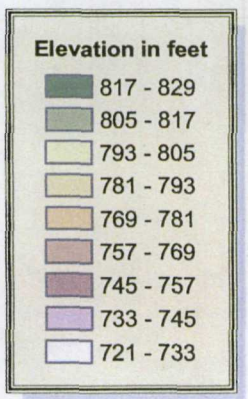
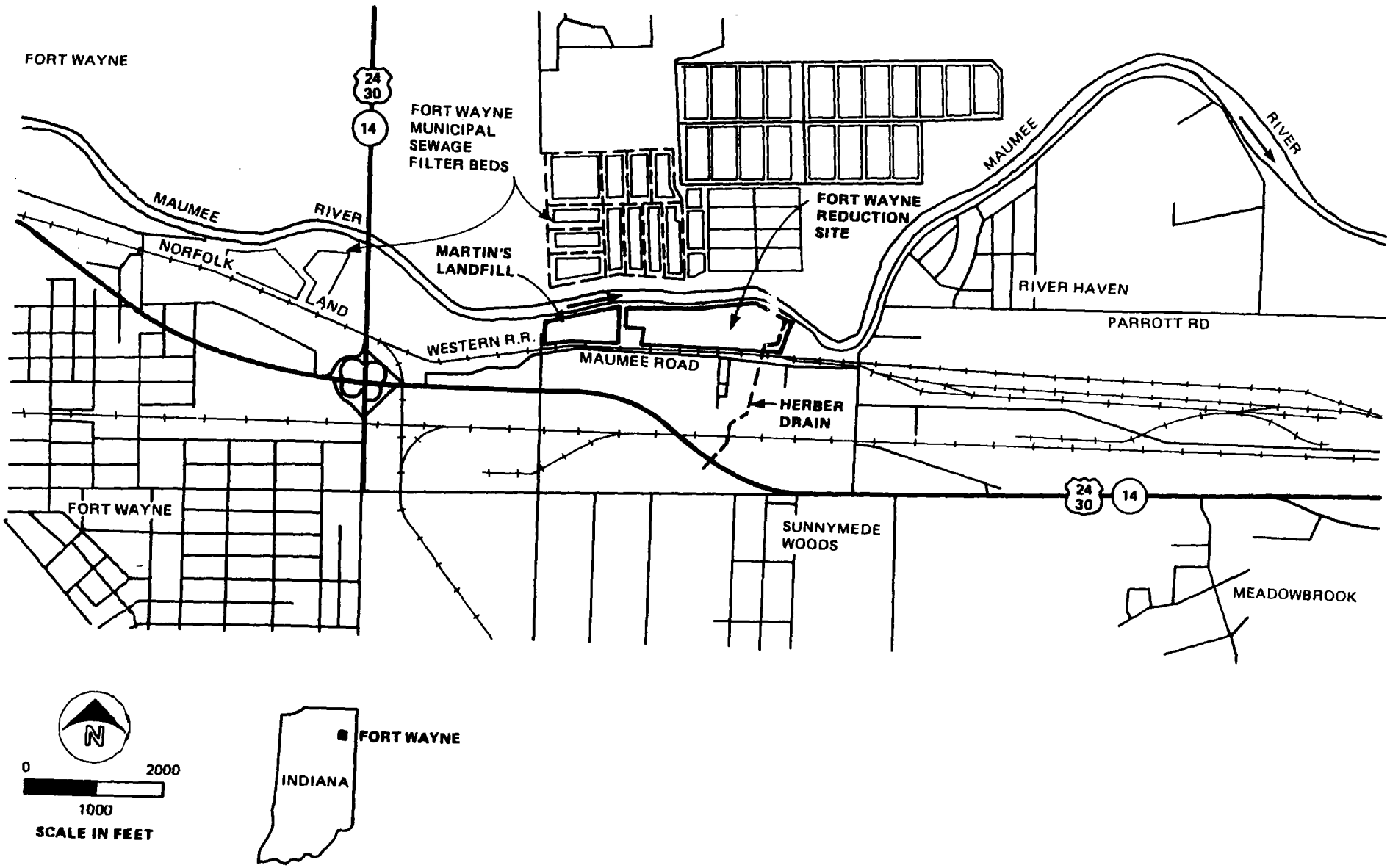


Figure 2

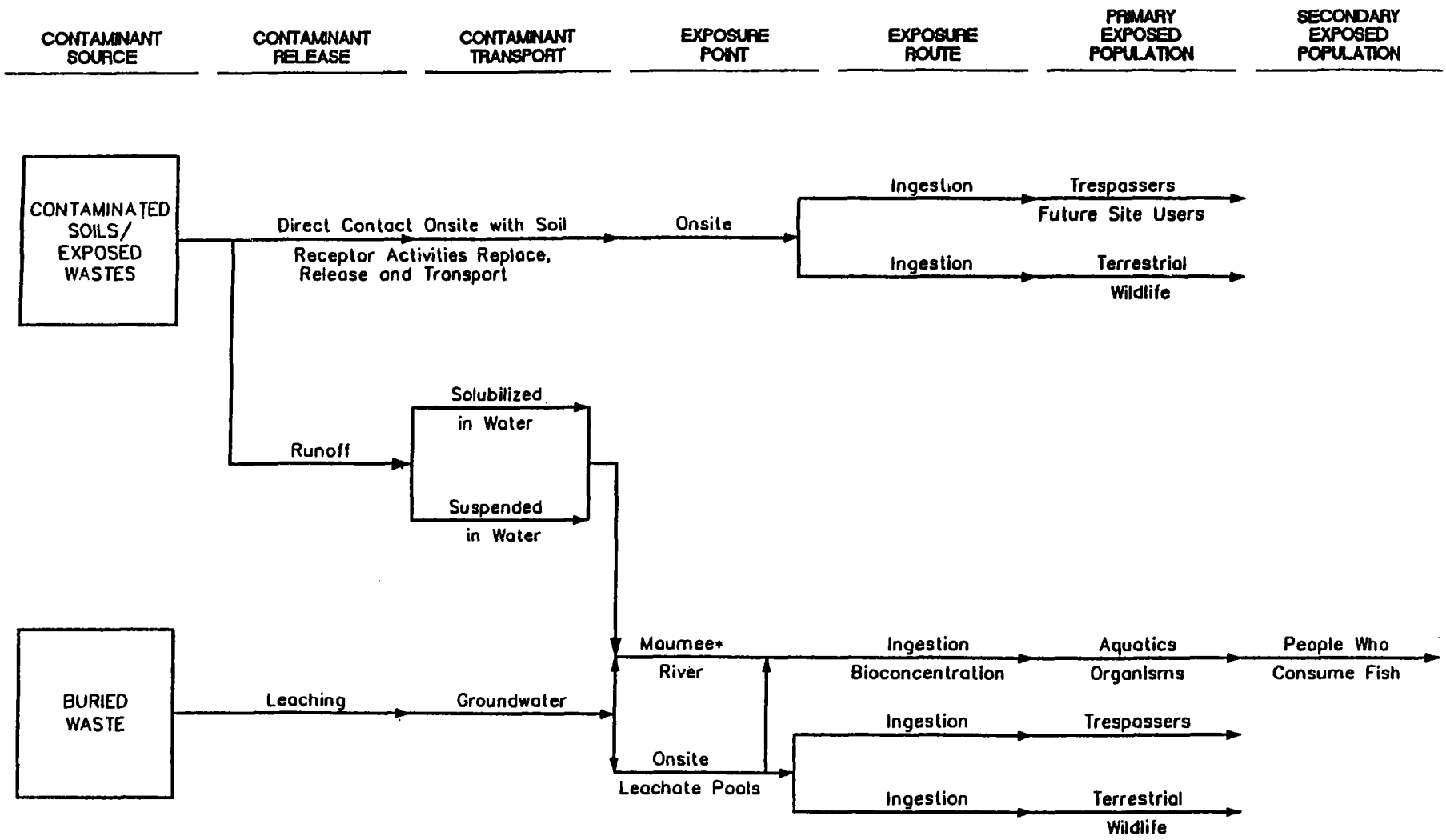
GEOS
Groundwater Evaluation and Optimization System

Plot created by Andrea Porter U.S. EPA Region 5 on 9/2/2004



SOURCE: Fort Wayne East USGS Quadrangle map.

FIGURE 3
SITE LOCATION & SURROUNDING LAND USE



* Includes water and river sediments

FIGURE 4
POTENTIAL EXPOSURE PATHWAYS OF GREATEST CONCERN

Appendices

Appendix A - List of Documents Reviewed
Appendix B - Site Inspection Photographs
Appendix C - Groundwater Monitoring Results
Appendix D - Declaration of Environmental Restrictive Covenants

Appendix A
List of Documents Reviewed

U.S. Environmental Protection Agency, "Remedial Investigation Report", January 7, 1988

U.S. Environmental Protection Agency, "Record of Decision for the Fort Wayne Reduction Site", August 28, 1988

U.S. Environmental Protection Agency, "Preliminary Close-Out Report", September 27, 1995

Army Corps of Engineers, "Responsible Parties Oversight of Remedial Action at the Fort Wayne Reduction Site", October 10, 1996

Earth Tech, Inc.'s, "Five Year Monitoring Report Ft. Wayne Reduction Site Post-Construction Monitoring", April, 2000

U.S. Environmental Protection Agency, "Comprehensive Five-Year Review Guidance" (OSWER No. 9355.7-03B-P), June 2001

Discharge Monitoring Reports for Industrial Discharge

Groundwater Compliance Monitoring Reports

Relevant site correspondence

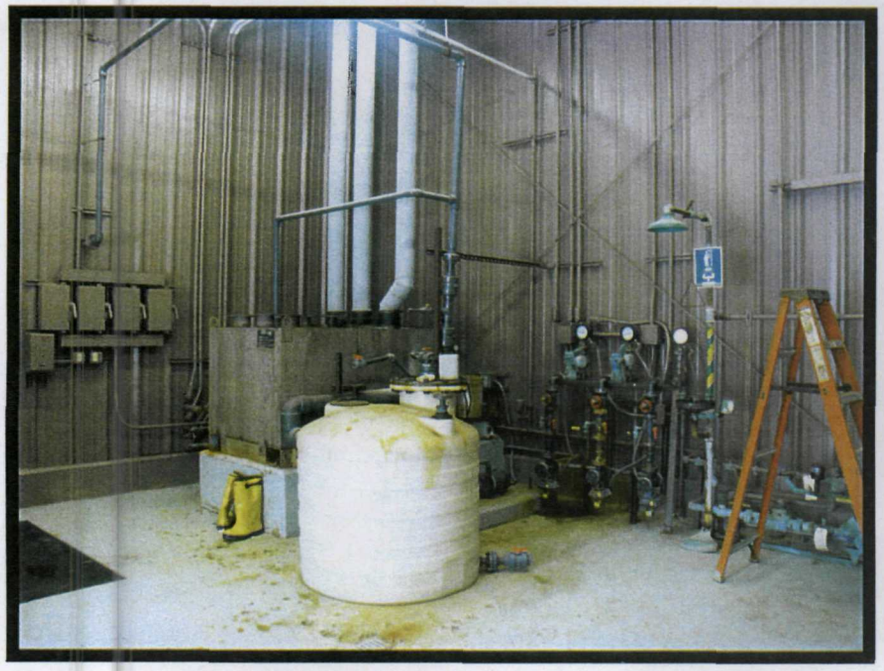
Appendix B

Site Inspection Photographs

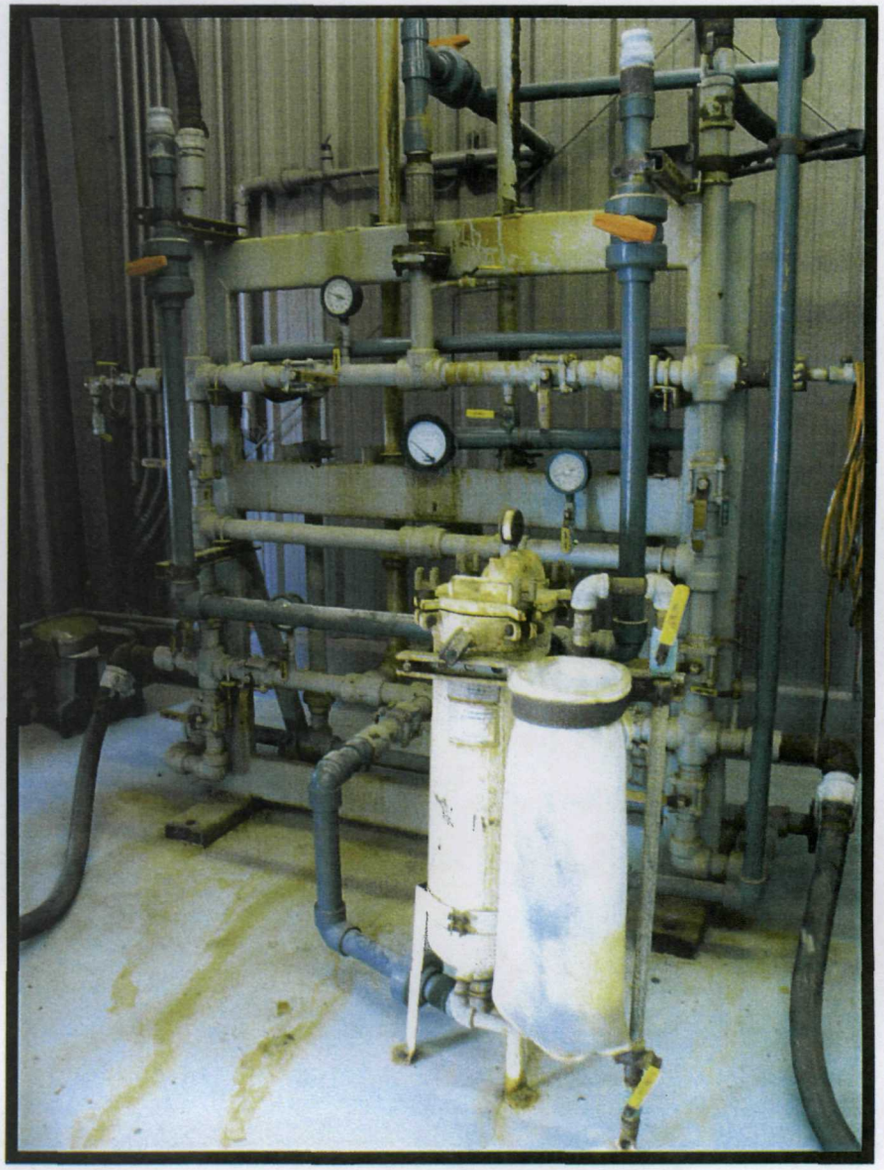
Site security signs

Extraction well meters

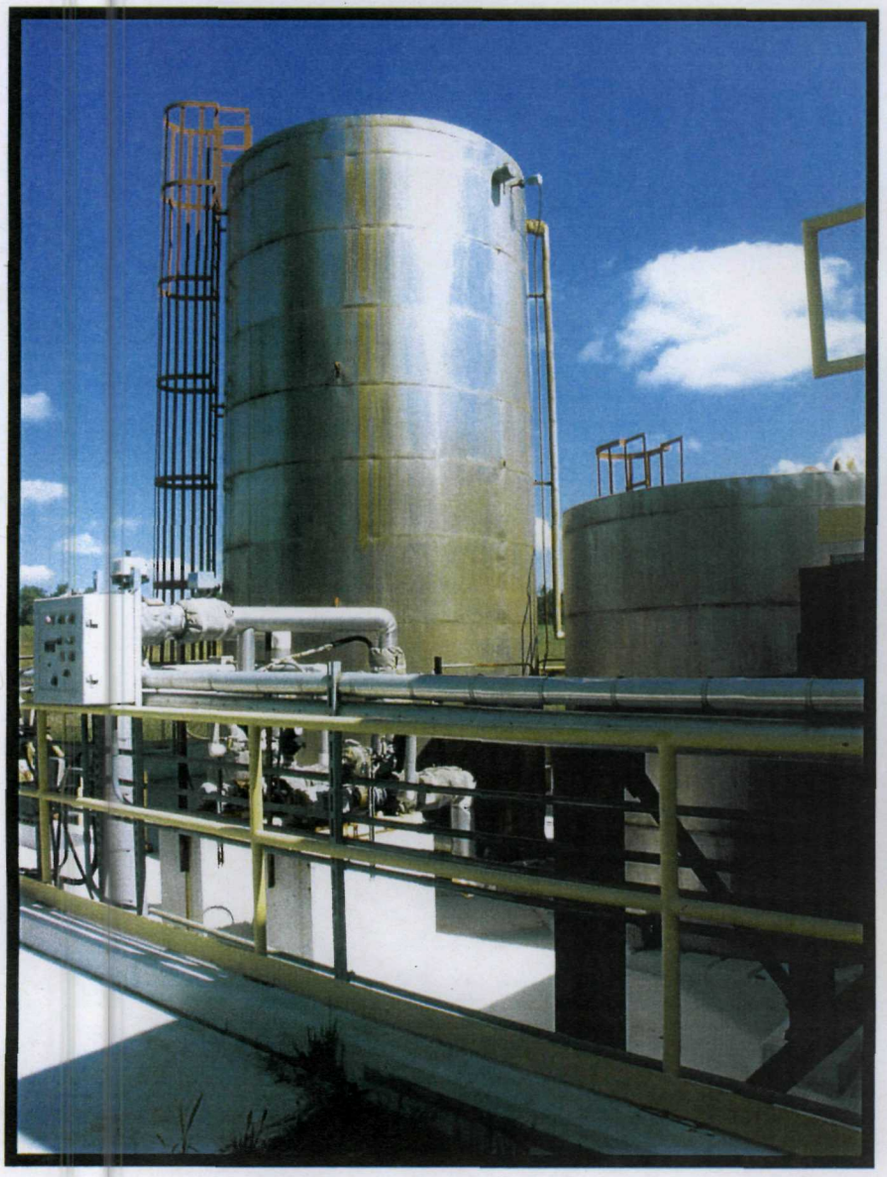
Granulation Activated Carbon (GAC) Units



Air stripping unit



GAC meters



Extracted groundwater holding tanks

Landfill cap & fence – eastern view

Landfill cap – northeastern view

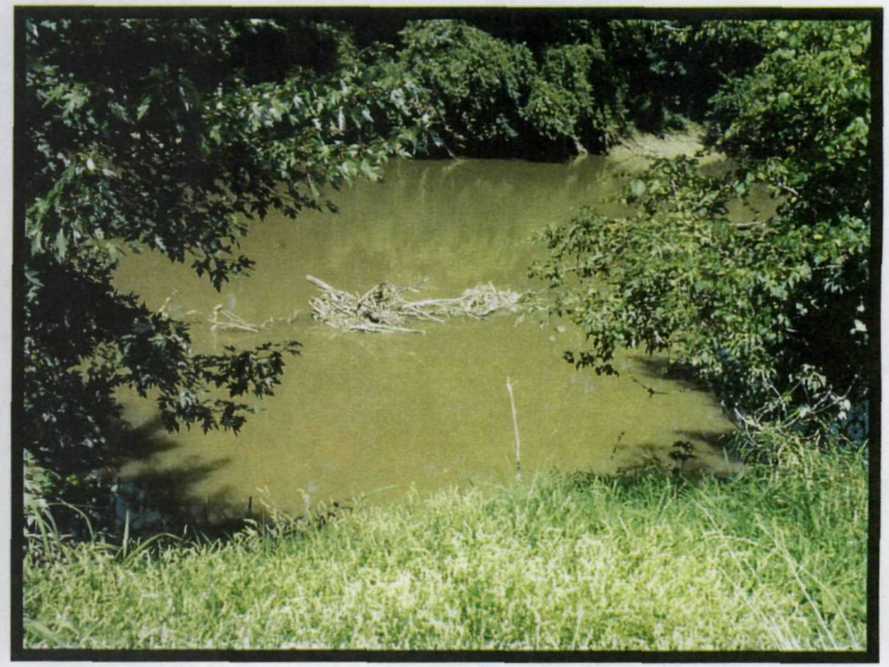
Landfill cap – Northeastern view

Landfill cap – Northern view

No Trespassing signs along the Maumee River on the northern site boundary

Landfill cap – western view

Landfill cap – western view



Beaver dam in Maumee River along northern boundary of site

Landfill cap – eastern view

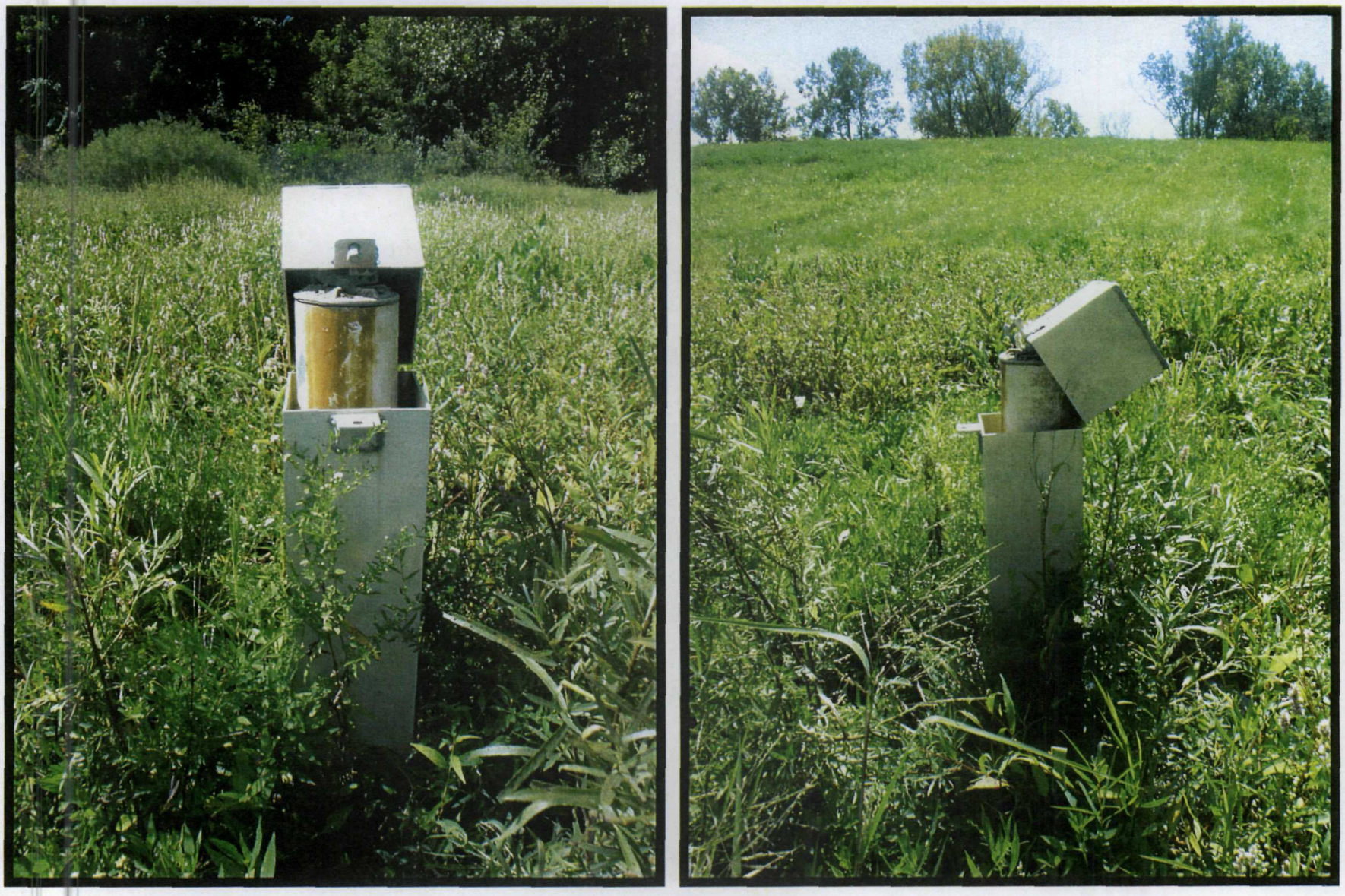
Electrical circuit box

Landfill cap – northern view

Extraction well electrical circuit boxes

Access road & groundwater treatment plant – southern view

Landfill cap – northern view



Monitoring location with freeze/thaw heaving

General refuse abandoned on site by trespassers

General refuse abandoned on site by trespassers

Fence damage by fallen tree along eastern boundary over Herber Drain

General refuse abandoned on site by trespassers

Breach in fence along western boundary

Breach in fence along southern boundary

Breaches in fence along southern boundary near Dager Auto Body (salvage yard)

Dager Auto Body (salvage yard) on southern boundary of site

Appendix C

Table A - F: Monitoring Well Results

Table A

Benzene (ug/L)				
	FW - 1S	FW - 2S	FW - 2I	FW - 2I (Duplicate)
06/01	ND	1.1	ND	ND
11/01	ND	2.1	ND	ND
06/02	ND	ND	ND	ND
12/02	ND	ND	ND	ND
04/03	ND	2.0	ND	ND
10/03	ND	1.0	ND	ND
06/04	ND	ND	ND	ND

Table B

Chloroethane (ug/L)				
	FW - 1S	FW - 2S	FW - 2I	FW - 2I (Duplicate)
06/01	ND	ND	8.9	9.3
11/01	ND	ND	4.7	5.9
06/02	ND	ND	ND	ND
12/02	ND	ND	4.3	3.6
04/03	ND	ND	ND	ND
10/03	ND	ND	ND	ND
06/04	ND	ND	ND	ND

Table C

Bis(2-Ethylhexyl)phthalate (ug/L)				
	FW - 1S	FW - 2S	FW - 2I	FW - 2I (Duplicate)
06/01	24.1	ND	ND	12.9
11/01	ND	ND	ND	ND
06/02	ND	ND	ND	ND
12/02	29.6	ND	10.4	14.7
04/03	26	ND	ND	16
10/03	52	ND	16	23
06/04	ND	ND	ND	ND

Table D

4-Methylphenol (ug/L)				
	FW - 1S	FW - 2S	FW - 2I	FW - 2I (Duplicate)
06/01	ND	ND	ND	ND
11/01	ND	24.5	ND	ND
06/02	ND	ND	ND	ND
12/02	ND	ND	ND	ND
04/03	ND	ND	ND	ND
10/03	ND	ND	ND	ND
06/04	ND	ND	ND	ND

Table E

Methylene Chloride (ug/L)				
	FW - 1S	FW - 2S	FW - 2I	FW - 2I (Duplicate)
06/01	ND	ND	ND	ND
11/01	ND	ND	ND	ND
06/02	ND	ND	ND	ND
12/02	ND	ND	ND	ND
04/03	ND	ND	ND	ND
10/03	ND	ND	ND	ND
06/04	ND	ND	ND	ND

Table F

Tetrachloroethene (ug/L)				
	FW - 1S	FW - 2S	FW - 2I	FW - 2I (Duplicate)
06/01	ND	ND	ND	ND
11/01	ND	ND	ND	ND
06/02	ND	ND	ND	ND
12/02	ND	ND	ND	ND
04/03	ND	ND	ND	ND
10/03	ND	ND	ND	ND
065/04	ND	ND	ND	ND

ND = Non-detect

Appendix D

Declaration of Environmental Restrictive Covenants

#202041936 Page1
RECORDER
05/29/2002 11:29:28
RECORDER
PATRICIA J CRICK
ALLEN COUNTY, IN
DOC. NO. 202041936
Receipt No. 16274
DCFD 3.00
MISL 2.00
MISL 16.00
Total 21.00

DECLARATION OF ENVIRONMENTAL RESTRICTIVE COVENANTS

This Declaration of Environmental Restrictive Covenants is made this 14 day of April, 2002, SC Holdings, Inc., a Pennsylvania corporation ("Owner" and successor by statutory merger to National Recycling Corporation, which was formerly known as Fort Wayne Reduction, Inc.) having an address at 1001 Fannin, Houston, Texas 70022.

WITNESSETH:

WHEREAS, the Owner is the Owner in fee simple of a parcel of land (the "Property") located in Allen County, Indiana, acquired by Owner pursuant to a deed dated May 27, 1966, and recorded June 3, 1966 as Document No. 11474, at Book 672, Page 360 in the office of the Recorder of Allen County, Indiana, and more particularly described immediately below:

> Part of the East half of the Northwest quarter of Section 9 and part of the West half of the Northeast quarter of Section 9, all in Township 30 North, Range 13 East, Allen County, Indiana, described as follows, to-wit: Beginning at a point on the West line of the East half of the Northwest quarter of Section 9, Township 30 North, Range 13 East, said point being situated 1373.6 feet North 2 degrees 30 minutes West of the intersection of the said West line of the East half of the Northwest quarter of Section 9 with the North right of way line of the Wabash Railroad Company; thence South 88 degrees 30 minutes East 122.0 feet; thence South 88 degrees East 200.0 feet; thence South 82 degrees East 2.06 feet; thence South 2 degrees 30 minutes East 178.0 feet to a point on the North right of way line of the New York, Chicago, and St. Louis Railroad; thence North 89 degrees 30 minutes East along said North right of way line 1162.0 feet; thence South 88 degrees 15 minutes East along said right of way line 546.5 feet; thence North 15 degrees 05 minutes East 551.5 feet to a point on the South bank of the Maumee River; thence Northwesterly and Westerly following the meanderings of the aforementioned South bank of the Maumee River 2247 feet, more or less, to its intersection with

02 5458
AUDITORS NUMBER

the aforementioned West line of the East half of the Northwest quarter of Section 9, Township 30 North, Range 13 East; thence South 2 degrees 30 minutes East along said line 456.14 feet to the point of beginning, containing 31.50 acres of land, more or less.

WHEREAS, the Property is part of the Ft. Wayne Reduction Superfund Site ("Site"), which the U.S. Environmental Protection Agency ("EPA"), pursuant to Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42. U.S.C. §9605, placed on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B;

WHEREAS, in a Record of Decision dated August 26, 1988 (the "ROD"), the EPA Region V Administrator selected a "remedial action" for the Site, which limits the installation of drinking water wells on the Property;

WHEREAS, the ROD also imposes limitations on site access and future uses of the Property;

WHEREAS, the Owner has entered into a Consent Decree with EPA, which was approved by the Court on July 18, 1989, (United States District Court for the District of Indiana, Civil Action No. F89-00029) obligating it to perform the remedial design and remedial action for the Site (hereinafter referred to as the "Consent Decree").

WHEREAS, the Owner desires to provide for limitations on access to the Property and certain restrictions on use of the Property for the purpose of protecting human health and the environment;

NOW THEREFORE:

1. Restrictions on Use: Owner does hereby covenant and declare that the Property shall be subject to the following restrictions on use:

A. *Groundwater Use*: Groundwater on or under the Property shall not be used for any purpose except as approved by governmental authority.

B. *Surface Water Use*: Surface water on or under the Property shall not be used for any purpose except as approved by governmental authority.

C. *Drinking Water Wells*: No drinking water wells shall be installed or allowed to be installed on the Property.

D. *Compliance with Environmental Laws*: The Property shall not be used in any way that is inconsistent with any response actions, laws or regulations applicable to the Property from time to time.

2. Reserved Right of Owner: Owner hereby reserves unto itself, its successors and assigns, all rights and privileges in and to the use of the Property which are not incompatible with the restrictions and rights granted herein.

3. Access by Government Agencies: The United States and its representatives, including EPA and it contractors, and the Indiana Department of Environmental Management ("IDEM") shall be allowed access at all reasonable times to the Property following reasonable advance notice to Owner (except in an emergency) for purposes of conducting any activity related to the Consent Decree including, but not limited to:

A. Monitoring the "Work" under the Consent Decree;

B. Verifying any data or information submitted to the United States;

C. Conducting investigations relating to contamination at or near the Property;

D. Obtaining samples; and

E. Assessing the need for, planning, or implementing additional response actions at or near the Site.

7. No Public Access and Use: No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

8. Notice to Third Parties: Any instrument conveying any interest in any portion of the Property, including, but not limited to, deeds, mortgages, leases, licenses, and occupancy agreements, shall include a notice which is in substantially the following form.

NOTICE: THE INTEREST CONVEYED HEREBY IS SUBJECT TO A DECLARATION OF ENVIRONMENTAL PROTECTION COVENANTS, DATED APRIL 14, 2002, RECORDED IN THE OFFICE OF THE RECORDER OF ALLEN COUNTY, INDIANA ON _____, 200__ AS DOCUMENT NO. _____, IN BOOK _____, PAGE____.

9. Enforcement: The Owner expressly acknowledges that the terms of this instrument are enforceable by EPA and/or IDEM against any person who is in any way responsible for a violation of its terms.

10. Amendment: This instrument may be amended only by written instrument which has been executed by the then Owner of the Property and which has been consented to in writing by (i) Waste Management of Indiana, LLC and (ii) the EPA.

11. General Provisions: The following provisions shall apply to this instrument:

A. Binding Effect: The covenants, conditions, restrictions, agreements and other provisions of this instrument shall run with the land and shall be binding upon the Property, the Owner and its successors and assigns.

B. Controlling Law: The laws of the State of Indiana shall govern the interpretation and performance of this instrument.

C. Liberal Construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of CERCLA and any amendments thereto. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provisions valid shall be favored over any interpretation that would render it invalid.

D. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Owner's title in any respect.

IN WITNESS WHEREOF, the Owner has caused this Declaration of Environmental Restrictive Covenants to be executed this 16th day of May, 2002.

OWNER:

SC HOLDINGS, INC.

By: ______________________

Print Name: ______________ Ronald H. Jones

Title: ______________ Vice President & Treasurer

STATE OF Texas }
COUNTY OF Harris } SS

On this 16th day of May, 2002 before me, a Notary Public in and for the State of Texas, duly commissioned and sworn, personally appeared Ronald H. Jones, known to me (or satisfactorily proven) to be the person(s) or whose name(s) is (are) subscribed to the within instrument, and acknowledged that he (she or they) executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

____
Name:
Notary Public
My Commission Expires:

LINDA K. DAVIS
NOTARY PUBLIC
STATE OF TEXAS
COMM. EXP. 10-13-2005

THIS INSTRUMENT PREPARED BY, AND
AFTER RECORDING RETURN TO:

Peter J. Kelly, Esq.
WINSTON & STRAWN
35 West Wacker Drive
Chicago, Illinois 60601